

Amendments to the Sequence Listing:

Please replace the sequence listing with the attached sequence listing.

SEQUENCE LISTING

<110> Consortium fuer elektrochemische Industrie [Consortium for electrochemical industry] GmbH
<120> Cells and method for fermentatively preparing R- α -lipoic acid

<130> Col0314

<140>
<141>

<160> 4

<170> PatentIn Ver. 2.0

<210> 1
<211> 679
<212> DNA
<213> Escherichia coli

<220>
<221> CDS
<222> (16)..(654)
<223> lipB gene

<300>
<301> Reed, Kelynne E.
Cronan Jr., John E.
<302> Lipoic Acid Metabolism in Escherichia coli: Sequencing and Functional Characterization of the lipA and lipB Genes
<303> J. Bacteriol.
<304> 175
<305> 5
<306> 1325-1336
<307> 1993

<400> 1
cacggagatg cccat atg tat cag gat aaa att ctt gtc cgc cag ctc ggt 51
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Leu Gln Pro Tyr Glu Pro Ile Ser Gln Ala Met His Glu Phe Thr Asp
15 20 25

acc cgc gat gat agt acc ctt gat gaa atc tgg ctg gtc gag cac tat 147
Thr Arg Asp Asp Ser Thr Leu Asp Glu Ile Trp Leu Val Glu His Tyr
30 35 40

ccg gta ttc acc caa ggt cag gca gga aaa gcg gag cac att tta atg 195
Pro Val Phe Thr Gln Gly Gln Ala Gly Lys Ala Glu His Ile Leu Met
45 50 55 60

Gln	Gly	Gln	Ala	Gly	Lys	Ala	Glu	His	Ile	Leu	Met	Pro	Gly	Asp	Ile
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Gly	Gln	Gln	Val	Met	Tyr	Val	Leu	Leu	Asn	Leu	Lys	Arg	Arg	Lys	Leu
				85					90					95	
Gly	Val	Arg	Glu	Leu	Val	Thr	Leu	Leu	Glu	Gln	Thr	Val	Val	Asn	Thr
				100					105					110	
Leu	Ala	Glu	Leu	Gly	Ile	Glu	Ala	His	Pro	Arg	Ala	Asp	Ala	Pro	Gly
				115				120				125			
Val	Tyr	Val	Gly	Glu	Lys	Lys	Ile	Cys	Ser	Leu	Gly	Leu	Arg	Ile	Arg
				130			135				140				
Arg	Gly	Cys	Ser	Phe	His	Gly	Leu	Ala	Leu	Asn	Val	Asn	Met	Asp	Leu
				145			150			155				160	
Ser	Pro	Phe	Leu	Arg	Ile	Asn	Pro	Cys	Gly	Tyr	Ala	Gly	Met	Glu	Met
				165				170				175			
Ala	Lys	Ile	Ser	Gln	Trp	Lys	Pro	Glu	Ala	Thr	Thr	Asn	Asn	Ile	Ala
				180				185				190			
Pro	Arg	Leu	Leu	Glu	Asn	Ile	Leu	Ala	Leu	Leu	Asn	Asn	Pro	Asp	Phe
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<210> 3
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 <213> Escherichia coli

<220>
 <221> CDS
 <222> (1)..(258)
 <223> E2 domain hybrid gene

<300>
 <301> Miles, John S.
 Guest, John R.
 <302> Subgenes expressing single lipoyl domains of the
 dehydrogenase complex of Escherichia coli
 <303> Biochem. J.
 <304> 245
 <306> 869-874
 <307> 1987

<300>
 <301> Ali, Sohail T.
 Guest, John R.
 <302> Isolation and characterisation of lipoylated and
 unlipoylated domains of the E2p subunit of the pyruvate
 dehydrogenase complex of *Escherichia coli*
 <303> Biochem. J.
 <304> 271
 <306> 139-145
 <307> 1990

<400> 3

atg gct atc gaa atc aaa gta ccg gac atc ggg gct gat gaa gtt gaa	48
Met Ala Ile Glu Ile Lys Val Pro Asp Ile Gly Ala Asp Glu Val Glu	
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Ile Thr Glu Ile Leu Val Lys Val Gly Asp Lys Val Glu Ala Glu Gln	
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tcg ctg atc acc gta gaa ggc gac aaa gct tct atg gaa gtt ccg gcg	144
Ser Leu Ile Thr Val Glu Gly Asp Lys Ala Ser Met Glu Val Pro Ala	
35 40 45	
ccg ttt gca ggc gtc gtg aag gaa ctg aaa gtc aac gtt ggc gat aaa	192
Pro Phe Ala Gly Val Val Lys Glu Leu Lys Val Asn Val Gly Asp Lys	
50 55 60	
gtg aaa act ggc tcg ctg att atg atc ttc gaa gtt gaa ggc gca gcg	240
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35 40 45	
Pro Phe Ala Gly Val Val Lys Glu Leu Lys Val Asn Val Gly Asp Lys	4
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Pro Ala Ala Ala Pro Ala
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<210> 5
<211> 264
<212> DNA
<213> Escherichia coli

<220>
<221> CDS
<222> (1)..(261)
<223> BCCP-DASMEP domain gene

<300>
<301> Reche, Pedro
Perham, Richard N.
<302> Structure and selectivity in post-translational
modification: attaching the biotinyl-lysine and
lipoyl-lysine swinging arms in multifunctional enzymes.
<303> EMBO J.
<304> 18
<305> 10
<306> 2673-2682
<307> 1999

<400> 5
atg gaa gcg cca gca gca gcg gaa atc agt ggt cac atc gta cgt tcc 48
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ttc atc gaa gtg ggt cag aaa gtc aac gtg ggc gat acc cta tgc atc 144
Phe Ile Glu Val Gly Gln Lys Val Asn Val Gly Asp Thr Leu Cys Ile
35 40 45

gtt gaa gcc gac aaa gca tcg atg gaa atc ccg gcg gac aaa tcc ggt 192
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50 55 60

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Thr Val Lys Ala Ile Leu Val Glu Ser Gly Gln Pro Val Glu Phe Asp
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<211> 87

<212> PRT

<213> Escherichia coli

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Phe Ile Glu Val Gly Gln Lys Val Asn Val Gly Asp Thr Leu Cys Ile
35 40 45

Val Glu Ala Asp Lys Ala Ser Met Glu Ile Pro Ala Asp Lys Ser Gly
50 55 60

Thr Val Lys Ala Ile Leu Val Glu Ser Gly Gln Pro Val Glu Phe Asp
65 70 75 80

Glu Pro Leu Val Val Ile Glu
85